

## **IV. TECHNICAL NOTES**

### **Residence Allocation**

Except as otherwise indicated, births and deaths in this report are based on place of residence. In the case of a birth or fetal death, residence is the usual residence of the mother. For deaths of persons in long-term institutions (mental, penal, old age, orphan, nursing home, rest home, etc.), the institution is considered the usual residence, provided the decedent has resided in the institution at least one year. College students and military personnel are considered residents of the college or military community.

North Carolina participates in an interchange program whereby photocopies of nonresident birth and death certificates are required to be sent to the state of residence within two months of the date of occurrence. The National Center for Health Statistics acts as a control for this interchange through a report from each state that lists the number of each type of vital record sent to every other state. However, delays or omissions in the interchange undoubtedly occur.

### **Occurrence Allocation**

Items 9 and 18 of the tables allocate live births and deaths respectively to place of occurrence regardless of place of residence. Marriage and divorce data are compiled only by place of occurrence – county of license for marriages and county of decree for divorces and annulments – because (i) all states do not engage in an interchange program whereby we receive notification of North Carolina residents who marry or divorce in other states and (ii) the two parties to these proceedings are often residents of different counties or states.

### **Race or Color Allocation**

Two broad categories, “white” and “minority,” are used in this report. Minority is predominantly black (>90%) in North Carolina. For births and fetal deaths, the child is considered to be the same race as the mother.

Due to some cases of different races of the two parties involved in marriage and divorce/annulment proceedings and to a number of “not stated” race cases, frequencies and rates for these events are not shown by race.

### **Completeness of Registration of Vital Events**

Completeness of registration is defined as the degree to which reported birth and death counts agree with the true counts in a given time frame. Birth registration, tested for completeness in 1940 and 1950, was found to be 86 and 96 percent complete respectively.<sup>2</sup> Death registration is believed to be even more complete than birth registration. Fetal death registration, tested for completeness in 1974, was found to be 99 percent complete.<sup>3</sup>

Marriage registration was tested for completeness in 1963. Over 99 percent of performed marriages had a properly recorded certificate of marriage.<sup>4</sup>

Delayed registration results in incomplete recording of vital events for a specific time period. Frequency counts in this report are based on 1999 events filed with the local registrar prior to April 1, 2000, and processed in the state office before the end of June 2000. Based on examinations of lagtimes in prior years, the number of calendar year events filed after April 1 of the subsequent year is considered negligible.

In addition to the above, a source of incompleteness in residence data could involve failure of other states to send photocopies for North Carolina resident events occurring in their states. The extent to which this occurs is unknown.

## Accuracy of Items on Certificate

The Vital Records Branch maintains continuous surveillance of certificates to detect inconsistencies in related items (e.g., newborn's name vs. sex). However, the true extent of bias and unreliability of vital records data is not known. One study by the State Center for Health Statistics has addressed the issue of the validity of selected birth certificate items, as compared with information recorded in the mother's hospital medical record.<sup>5</sup>

## Treatment of Missing Values

As a result of a survey to reconcile inconsistencies in the data and to complete unanswered items, missing values are rare for the characteristics included in this report. These "not stated" cases are treated in one of two ways:

- (1) not allocated because they are believed to have an unknown distribution that is different from the distribution for "stated" cases; or
- (2) randomly distributed in the same proportion as the "stated" cases for the state.

The following table shows the number and treatment of missing values in the statistical files underlying this report. In the case of race, marital status, mother smoked, and method of delivery, most of the missing values are due to absence of these items on certificates from other states.

### Number of Missing Values by Item and Treatment North Carolina 1999

	Treatment of Missing Values	
	Treatment 1	Treatment 2
<b>Live Births</b>		
Sex	0	2
Birth Weight	59	0
Marital Status	72	0
Race	0	0
Mother Smoked	524	0
Method of Delivery	19	0
<b>Deaths</b>		
Age	0	0
Race	0	40
Sex	0	3
<b>Fetal Deaths</b>		
Marital Status	2	0
Race	0	0